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Treatment for Angle-Closure Glaucoma without Cataracts: New Therapeutic Options

Tratamento do glaucoma de ângulo fechado sem catarata: novas alternativas terapêuticas

Tratamiento del glaucoma de ángulo cerrado sin catarata: noticias alternativas terapéuticas

Running Title: Angle-Closure Glaucoma

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This randomized clinical study performed at Hong Kong compares the efficacy of phacoemulsification vs. trabeculectomy operations for treating patients with angle-closure glaucoma (ACG), with uncontrolled intraocular pressure (IOP) and without cataracts that affect vision. Although this article was first published in 2013, its inclusion in the e-oftalmo.cbo database is justified by the clinical relevance in our daily practice. The results and conclusions of this study warrant further discussion so that these patients can be adequately treated.

A total of 26 patients with ACG were randomized into the phacoemulsification group, and 24 patients were randomized into the trabeculectomy with mitomycin group (0.4 mg/ml, 2–3 minutes). All patients presented with patent iridotomies, glaucomatous optic neuropathy, defects in the visual field that were consistent with glaucoma, and an average IOP above 24 mmHg when more than three medications were used. A surgeon specialized in ACG performed all the surgeries, and patients were monitored in follow-up consultations every three months for a period of two years.

IOP decreased in both the phacoemulsification group (24.1 ± 4.1 mmHg pre-surgery vs. 15.9 ± 3.9 mmHg 24 months post-surgery) and the trabeculectomy group (24.8 ± 3.4 mmHg pre-surgery vs. 15.8 ± 4.3 mmHg 24 months post-surgery); however, more anti-glaucoma medication was required in the phacoemulsification group (the average number of drugs required was 1.5 in the phacoemulsification group and 0.4 in the trabeculectomy group). The trabeculectomy group presented significantly more complications than the phacoemulsification group, as the patients required interventions such as compression bandages, 5-fluorouracil injections, and needlings. However, no complication in either group resulted in a worse prognosis in terms of vision by the end of the study. According to the study, 8 (33%) eyes from the trabeculectomy group were found to have cataracts, and 5 patients accepted treatment with phacoemulsification. In addition, a total of 5 (20%) patients from the phacoemulsification group experienced uncontrolled intraocular eye pressure, despite clinical treatment; 3 agreed to undergo trabeculectomy.

The authors conclude that phacoemulsification alone may be an alternative to trabeculectomy as an initial surgical treatment in cases of ACG with uncontrolled IOP, even in the presence of clear lens.

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However, it is important to note that initial surgical indication depends on the individual evaluation of the severity of the glaucomatous optic neuropathy as well as the severity of the angular closure process (extension of the peripheral anterior synechiae).

In the data presented on the journal's website (not published in the body of the manuscript), the patients presented with moderate-to-advanced glaucoma in both groups (average MD was 18.8 dB in the phacoemulsification group and 19.8 dB in the trabeculectomy group) and also with extensive areas of anterior synechiae (274° in the phacoemulsification group and 277° in the trabeculectomy group). Until proven otherwise, phacoemulsification alone is not able to break peripheral anterior synechiae. Thus, it is unlikely that phacoemulsification can result in adequate pressure control in eyes with such compromised drainage systems (with IOPs of 24 mmHg, owing to the use of more than three medications). The authors make no comment on the extension of the syncheiae after phacoemulsification. Furthermore, it can be said that there is a consensus among glaucoma specialists that the advanced cases of glaucoma with an average IOP of 24 mmHg (using more than 3 drugs) requires anti-glaucoma surgical procedures, such as trabeculectomy. The inability to control intraocular pressure after phacoemulsification alone in eyes with advanced glaucomatous optic neuropathy may result in irreversible vision loss.

These two arguments are based on previous knowledge and experience and create reasonable doubts regarding the results of this randomized clinical trial, particularly due to the serious and irreversible implications for the patients' vision. We believe that this study needs to be replicated by other groups with an adequate sample size and better patient characterization both before and after the procedures.



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